AMENDMENTS TO THE CLAIMS WITH MARKINGS TO SHOW CHANGES MADE, AND LISTING OF ALL CLAIMS WITH PROPER IDENTIFIERS

1.-8. (Canceled)

9. (New) A method for applying a controlled stator current set point value and a controlled torque set point value to a converter-fed rotating-field machine, comprising:

computing a field-forming current component of the stator current set point value as a function of a predetermined rotor flux set point value and a measured actual rotor flux value;

computing a torque-forming current component of the stator current set point value as a function of a predetermined torque set point value, the measured actual rotor flux value and a measured torque-forming current component of a measured stator current;

determining an actual stator angular frequency value as a function of a measured rotor slip frequency and of an angular frequency;

by using a frequency-dependent stray inductance and a stator resistance as parameters, computing the integral the stator voltage as a manipulated variable from the computed values of the field-forming current component, the torque-forming current component, the actual stator angular frequency, and the measured rotor slip frequency; and

deriving from the integral of the stator voltage a flux path curve which is selected from optimized flux path curves stored off-line.

10. (New) The method of claim 9, further comprising the step of computing as a function of the computed field-forming current component and the torque-forming current component, of the parameters frequency-dependent stray inductance and the stator resistance, of the actual stator angular frequency, and of the actual rotor flux value a normalized steady-state stator voltage, which is normalized based on a measured intermediate circuit voltage.

11. (New) The method of claim 9, wherein an actual terminal flux value is determined by before integrating the stator voltage, subtracting a voltage drop caused by the instantaneous stator current across the stator resistance, and after integrating the stator voltage and after transformation into a coordinate system, which is synchronized with the rotor flux, adding a voltage drop across the stator resistance caused by the set point value of the stator current, divided by the actual stator angular frequency.

12. (New) The method of claim 10, and further computing from the normalized steady-state stator voltage in form of polar components a drive level and a voltage angle.

13. (New) The method of claim 12, and further computing from the computed drive level a magnitude of a terminal flux at the computed fundamental actual stator angular frequency as a function of the measured intermediate circuit voltage using the following equation:

$$|\underline{\Psi}_K| = \frac{a \cdot U_D \cdot \frac{2}{\pi}}{\omega_S}$$

wherein Ψ_K is the terminal flux, a is the computed drive level, U_D is the intermediate circuit voltage, and ω_S is the stator angular frequency.

14. (New) The method of claim 10, and further comprising the steps of determining a continuous rotor flux angle; determining an angle between the terminal flux and the rotor flux; computing from the determined continuous rotor flux angle and the determined angle between the terminal flux and the rotor flux a continuous nominal terminal flux angle using the following equation:

$$\gamma_{\Psi Knom} = \gamma_{\Psi R} + \delta_{\Psi K}$$

wherein $\gamma_{\Psi Knom}$ is the continuous nominal terminal flux angle, $\gamma_{\Psi R}$ is the rotor flux angle, and $\delta_{\Psi K}$ is the angle between the terminal flux and the rotor flux.

15. (New) The method of claim 12, wherein the polar voltage angle is computed using the following equation:

$$\delta_U = \arcsin \frac{U_{Sdstead}}{a \cdot U_D \cdot 2/\pi} + 90°$$

wherein δ_U is the polar voltage angle, $U_{Sdstead}$ is the torque-forming component of the normalized steady-state stator voltage, a is the computed drive level, and U_D is the intermediate circuit voltage.

16. (New) The method of claim 11, wherein the angle between a terminal flux and the rotor flux is computed using the following equation:

$$\delta_{\Psi K} = \delta_u - 90° = \arcsin \frac{U_{sdstead}}{a \cdot U_D \cdot 2/\pi}$$

wherein $\delta_{\Psi K}$ is the angle between the terminal flux and the rotor flux, δ_U is the polar voltage angle, $U_{Sdstead}$ is the torque-forming component of the normalized steady-state stator voltage, a is the computed drive level, and U_D is the intermediate circuit voltage.

REMARKS

This Amendment is submitted preliminary to the issuance of an Office Action in the present application.

Applicant has canceled original claims 1-8 in favor of new claims 9-16 which are intended to present claims in proper form and language and to better encompass the full scope and breadth of the invention notwithstanding applicant's belief that the claims would have been allowable as originally filed. Accordingly, applicant asserts that no claims have been narrowed to trigger prosecution history estoppel.

In addition, applicant has amended the specification to present it in proper form and language.

A substitute specification which includes all the foregoing changes to the specification (other than the claims) is enclosed herewith.

When the Examiner takes this application up for action, s/he is requested to take the foregoing into account.

Respectfully submitted,

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